Title (en)

Powder press

Title (de)

Pulverpresse

Title (fr)

Presse à poudre

Publication

EP 2311587 A1 20110420 (DE)

Application

EP 09172938 A 20091013

Priority

EP 09172938 A 20091013

Abstract (en)

The powder press for producing a pellet from a powder material, comprises a frame (2), an upper die arrangement (3), a lower die arrangement (5), a die plate arrangement (4) disposed between the two die arrangements, and a regulation unit or a control unit for regulating and/or controlling the synchronized motion of the spindle drive under the compensation of individual angular momentum. The die plate arrangement defines a mold cavity, in which the powder material is filled, and the upper die arrangement and the lower die arrangement are pressed against each other to form the pellet. The powder press for producing a pellet from a powder material, comprises a frame (2), an upper die arrangement (3), a lower die arrangement (5), a die plate arrangement (4) disposed between the two die arrangements, and a regulation unit or a control unit for regulating and/or controlling the synchronized motion of the spindle drive under the compensation of individual angular momentum. The die plate arrangement defines a mold cavity, in which the powder material is filled, and the upper die arrangement and the lower die arrangement are pressed against each other to form the pellet. The upper die arrangement has an upper spindle drive. The die plate arrangement and/or the lower die arrangement comprise a lower spindle drive (6). The upper die arrangement, the die plate arrangement and the lower die arrangement comprise the spindle drive for its drive. Each spindle drive has a servo-motor arrangement with a sensor for detecting a spindle position or a spindle moment and with a sensor for detecting a change of the spindle position, and a rotational position-sensor for detecting a rotational position of the spindle and with a displacement position-sensor for detecting displacement position of the spindle. The rotational position-sensor and the displacement position-sensor are arranged along the spindle longitudinal direction spaced from each other. The motor of the servo motor arrangement is a hollow shaft electric motor for producing a regulated rotary drive. Each spindle drive has a threaded rod-nut block unit with a threaded rod-metric thread and complementary nut block-internal thread. The threaded rod is rotationally driven by means of the motor and the nut block is rigidly connected or integrally formed with the die arrangement. The upper die arrangement, the die plate arrangement and lower die arrangement comprise identical spindle drives arranged parallel to each other. The moving parts of two parallel identical spindle drives are driven with opposite rotational movements. The spindle drives have recirculating ball spindles or satellite roller spindles. The hollow shaft motor has braced rolling bearings and cooling fins on its housing and is associated to a fan.

Abstract (de)

Eine Pulverpresse (1) zur Herstellung eines Presslings aus einem pulverförmigen Material, mit einem Rahmen (2), einer oberen Stempelanordnung (3), einer unteren Stempelanordnung (5) und einer zwischen den beiden Stempelanordnungen angeordneten Matrizenanordnung (4). Die Matrizenanordnung definiert einen Formhohlraum, in den das pulverförmige Material eingefüllt werden kann und danach zur Formung des Presslings die obere Stempelanordnung (3) und die untere Stempelanordnung (5) gegeneinander gepresst werden können. Die obere Stempelanordnung (3) besitzt einen oberen Spindelantrieb (6). Die Matrizenanordnung (4) und/oder die untere Stempelanordnung (5) besitzt mindestens einen unteren Spindelantrieb (7,8).

IPC 8 full level

B22F 3/03 (2006.01); **B30B 1/18** (2006.01); **B30B 11/02** (2006.01)

CPC (source: EP)

B22F 3/03 (2013.01); **B30B 1/181** (2013.01); **B30B 1/186** (2013.01); **B30B 11/02** (2013.01)

Citation (applicant)

WO 2008104969 A1 20080904 - POLYGON TAMARISK LTD [IL], et al

Citation (search report)

- [XY] EP 0358770 A1 19900321 - FANUC LTD [JP]
- [Y] DE 10011859 A1 20010920 - WINTER CARSTEN [DE]
- [X] WO 2008104969 A1 20080904 - POLYGON TAMARISK LTD [IL], et al
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- [A] EP 1952975 A1 20080806 - OSTERWALDER AG [CH]

Citation (examination)

- US 6237479 B1 20010529 - DOUBA EIJI [JP]
- EP 1693183 A1 20060823 - INST TECH PRECISION ELECT [JP]

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Designated extension state (EPC)

AL BA RS

DOCDB simple family (publication)

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